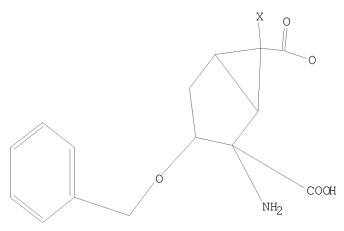
eries\10562018.str

L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s 11 ss sam

REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 16:14:47 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 15 TO ITERATE

100.0% PROCESSED 15 ITERATIONS 6 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 68 TO 532 PROJECTED ANSWERS: 6 TO 266

L2 6 SEA SSS SAM L1

L3 5 L2

MISSING OPERATOR L3 SS

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 11 sss sam

REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

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SAMPLE SCREEN SEARCH COMPLETED - 15 TO ITERATE

100.0% PROCESSED 15 ITERATIONS 6 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 68 TO 532 PROJECTED ANSWERS: 6 TO 266

L4 6 SEA SSS SAM L1

L5 5 L4

=> d 1-5 ibib abs hitstr THE ESTIMATED COST FOR THIS REQUEST IS 28.20 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L5 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:733075 CAPLUS

DOCUMENT NUMBER: 145:188474
TITLE: Preparation of

2-amino-bicyclo[3.1.0]hexane-2,6-dicarboxylic acid ester derivatives as group II metabotropic glutamate

receptor antagonists

INVENTOR(S): Yasuhara, Akitaka; Sakagami, Kazunari; Ota, Hiroyuki;

Nakazato, Atsuro

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 95 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE

JP 2006193507 A 20060727 JP 2005-330903 20051115
PRIORITY APPLN. INFO:: JP 2004-363690 A 20041215

OTHER SOURCE(S): MARPAT 145:188474

GΙ

$$X$$
 $OR^1$ 
 $H_2N$ 
 $OR^2$ 

AB Title compds. I [R1, R2 = alkyl, alkenyl, alkynyl, etc.; X = H, F; Y = -OCHR3R4, -SR3, -S(O)nR5, etc.; R3, R4 = H, alkyl, alkenyl, etc.; R5 = alkyl, alkenyl, Ph, etc.; n = 1, 2], pharmaceutically acceptable salts or hydrates thereof were prepared For example, reduction of compound II [R = N3;

R',
 R'' = Et], e.g., prepared from (1R,5R,6R)-6-fluoro-2-oxobicyclo[3.1.0]hexane6-carboxylic acid Et ester in 6 steps, followed by hydrolysis using LiOH
and SOC12 mediated esterification with methanol afforded compound II [R =
NH2; R' = H; R'' = methyl] hydrochloride. Compound II [R = NH2; R' = H; R''
= methyl] hydrochloride showed antidepressant effects in rat forced
swimming test. Compds. I are claimed useful for the treatment of
depression.

IT 820244-11-9P 820244-46-0P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)

ΙI

(preparation of 2-amino-bicyclo[3.1.0]hexane-2,6-dicarboxylic acid ester derivs. as group II metabotropic glutamate receptor antagonists for treatment of depression)

RN 820244-11-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-,
6-[(2E,6E)-3,7,11-trimethyl-2,6,10-dodecatrien-1-yl] ester,
(1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

PAGE 1-A

PAGE 1-B

RN 820244-46-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, 6-(3,7-dimethyloctyl) ester, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry.

L5 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:14355 CAPLUS

DOCUMENT NUMBER: 142:113634
TITLE: Preparation of

2-aminobicyclo[3.1.0]hexane-2,6-dicarboxylic acid esters as Group II metabotropic glutamate receptor

antagonists

INVENTOR(S): Yasuhara, Akito; Sakagami, Kazunari; Ohta, Hiroshi;

Nakazato, Atsuro

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., Ltd., Japan

GΙ

SOURCE: PCT Int. Appl., 144 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	KIND DATE																		
				A1 20050106															
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		CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,		
							ID,												
		LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NΙ,		
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EP	1637517							EP 2004-746867					20040625 NL, SE, MC, PT,						
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BR 2004011823					A 20060808					BR 2	004-	1182	20040625						
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NO 2006000428					А		2006	0310		NO 2	006-	428				0060			
ORIT	Y APP	LN.	INFO	.:							003-				A 2				
											003-					0031			
											004-					0040			
										WO 2	004-	JP93	98	•	W 2	0040	625		
HER SOURCE(S):					MAR	PAT	142:	1136	34										

AB The title compds. I [wherein R1 and R2 = independently alkyl, alkenyl, alkynyl, etc.; X = H or F; Y = (un) substituted alkoxy, SH, amino, etc.] or hydrates or pharmaceutically acceptable salts thereof are prepared as Group

II metabotropic glutamate receptor antagonists. For example, the compound II was prepared in a multi-step synthesis. II showed antagonistic effect on Group II metabotropic glutamate receptor in rat. I are useful for the treatment of schizophrenia, anxiety, and diseases related to these, i.e., psychiatrical disorders such as depression, bipolar disorder, and epilepsy (no data).

IT 820244-11-9P 820244-46-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of 2-aminobicyclo[3.1.0]hexane-2,6-dicarboxylic acid esters as Group II metabotropic glutamate receptor antagonists)

RN 820244-11-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-,
6-[(2E,6E)-3,7,11-trimethyl-2,6,10-dodecatrien-1-yl] ester,
(1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Double bond geometry as shown.

PAGE 1-A

PAGE 1-B

RN 820244-46-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, 6-(3,7-dimethyloctyl) ester, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry.

Me<sub>2</sub>CH (CH<sub>2</sub>) 
$$\frac{Me}{3}$$
 O  $\frac{R}{R}$   $\frac{R}{R}$   $\frac{R}{R}$  CO<sub>2</sub>H

THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 21 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:1038326 CAPLUS

DOCUMENT NUMBER: 142:16843

TITLE: mGluR2 antagonists and

> 2-amino-3-alkoxy-6-[3.1.0]hexan-2,6-dicarboxylate derivatives for treatment of nervous system diseases

INVENTOR(S): Nakazato, Atsuro; Taki, Shigeyuki; Sakagami, Kazunari;

Dean, Reiko; Ota, Hiroyuki; Hirota, Shiho; Yasuhara,

Akitaka

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., Ltd., Japan

Jpn. Kokai Tokkyo Koho, 70 pp. SOURCE:

CODEN: JKXXAF

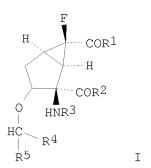
DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
JP 2004339199	A	20041202	JP 2004-86153		20040324
PRIORITY APPLN. INFO.:			JP 2003-117907 A	4	20030423
OTHER SOURCE(S):	MARPAT	142:16843			

GI



The antidepressant mGlur2 antagonists and AΒ

09/09/2009 TOh

2-amino-3-alkoxy-6-[3.1.0]hexan-2,6-dicarboxylate derivs., salts, and hydrates are claimed for treatment of nervous system diseases, including bipolar affective disorder, psychiatry disorder, anxiety, epilepsy, drug dependence, cognition disorder, Alzheimer's disease, Huntington's disease, Parkinson disease, muscle stiffness, brain ischemia, spinal cord injury, head injury, etc.

IT 569686-67-5P 569686-89-1P 569686-92-6P 569687-04-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(6-Fluorobicyclo[3.1.0]hexane derivs. having group II metabotropic glutamate receptor antagonist actions as antidepressants)

RN 569686-67-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-phenoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-89-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-92-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3,4,5-trichlorophenyl)methoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

569687-04-3 CAPLUS RN

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,

2-amino-3-[(1S)-1-(3,4-dichlorophenyl)] butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

ANSWER 4 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:620394 CAPLUS

DOCUMENT NUMBER: 141:243074

TITLE: Synthesis, in vitro pharmacology, structure-activity

relationships, and pharmacokinetics of

3-alkoxy-2-amino-6-fluorobicyclo[3.1.0]hexane-2,6dicarboxylic acid derivatives as potent and selective group II metabotropic glutamate receptor antagonists Nakazato, Atsuro; Sakagami, Kazunari; Yasuhara, Akito;

AUTHOR(S): Ohta, Hiroshi; Yoshikawa, Ryoko; Itoh, Manabu;

Nakamura, Masato; Chaki, Shiqeyuki

Medicinal Chemistry Laboratory, Taisho Pharmaceutical Co. Ltd., Kita-ku, Saitama-shi, Saitama, 331-9530, CORPORATE SOURCE:

Japan

SOURCE: Journal of Medicinal Chemistry (2004), 47(18),

4570-4587

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 141:243074

GΙ

Group II metabotropic glutamate receptor (mGluR) antagonists, AB 3-alkoxy-2-amino-6-fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid derivs., e.g., I, were discovered by the incorporation of a hydroxy or alkoxyl group onto the C-3 portion of selective and potent group II mGluR agonist II. Among these compds., I (MGS0039) was a highly selective and potent group II mGluR antagonist with the best pharmacokinetic profile. I exhibited high affinities for mGlu 2 (Ki =  $2.38 \pm 0.40$  nM) and mGlu 3  $(4.46 \pm 0.31 \text{ nM})$  but low affinity for mGluR 7 (Ki = 664 ± 106 nM), and potent antagonist activities for mGlu 2 (IC50 =  $20.0 \pm 3.67$ nM) and  $mGluR \ 3 \ (IC50 = 24.0 \pm 3.54 \ nM)$  but much less potent antagonist 1270 nM), mGlu 1 (IC50 = 93300  $\pm$  14600 nM), and mGluR 5 (IC50 = 117000 ± 38600 nM). No significant agonist activities of I were found for mGluRs 2, 3, 4, 6, 1, and 5 (EC50 > 100000 nM). Furthermore, I exhibited dose-dependent oral absorption (plasma Cmax: 214 ± 56.7, 932 ± 235, and 2960  $\pm$  1150 ng/mL for 3 mg/kg, 10 mg/kg, and 30 mg/kg, po, resp.) and acceptable blood-brain barrier penetration (brain Cmax: 13.2 ng/mL for 10 mg/kg, po 6 h). The synthesis, in vitro pharmacol. profile, and structure-activity relationships of 3-alkoxy-2-amino-6-fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid derivs., and pharmacokinetic profiles of several typical compds, are presented.

IT 569686-67-5P 569686-89-1P 569686-92-6P 569687-04-3P

RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of alkoxy(amino)fluorobicyclohexanedicarboxylic acid derivs. and their binding affinity of group II metabotropic glutamate receptors and structure-activity relationship starting from chiral fluoro(oxo)bicyclohexanecarboxylates)

RN 569686-67-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-phenoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA

## INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-89-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-92-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3,4,5-trichlorophenyl)methoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-04-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1S)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS

RECORD (18 CITINGS)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:591035 CAPLUS

DOCUMENT NUMBER: 139:143973

TITLE: 6-Fluorobicyclo[3.1.0]hexane derivatives
INVENTOR(S): Nakazato, Atsuro; Chaki, Shiqeyuki; Sakagami,

Kazunari; Dean, Ryoko; Ohta, Hiroshi; Hirota, Shiho;

Yasuhara, Akito

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., ltd., Japan

SOURCE: PCT Int. Appl., 98 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.					KIN	D	DATE			APPL	ICAT	ION I	DATE				
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									F	KR	200	04-	7100	69		A3 2	0040	625		

OTHER SOURCE(S): MARPAT 139:143973 GI

Antidepressants containing as the active ingredient compds. having group II metabotropic glutamate receptor antagonism; and 2-amino-3-alkoxy-6-fluorobicyclo[3.1.0]- hexane-2,6-dicarboxylic acid derivs. represented by the general formula [I], pharmaceutically acceptable salts thereof, or hydrates of the salts: I wherein R1 and R2 may be the same or different from each other and are each hydroxyl, C1-10 alkoxy, or the like; R3 is C1-10 acyl, C1-6 alkoxy-C1-6 acyl, or the like; and R4 and R5 may be the same or different from each other and are each hydrogen, C1-10 alkyl, or the like.

II 569686-67-5P 569686-89-1P 569686-92-6P

569687-04-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(6-Fluorobicyclo[3.1.0]hexane derivs. having group II metabotropic glutamate receptor antagonist actions as antidepressants)

RN 569686-67-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-phenoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-89-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-92-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-6-fluoro-3-[(3,4,5-trichlorophenyl)methoxy]-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-04-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s l1 sss full REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 185.40 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y FULL SEARCH INITIATED 16:17:19 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 328 TO ITERATE

100.0% PROCESSED 328 ITERATIONS 112 ANSWERS

SEARCH TIME: 00.00.01

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23 L6 L7

=> s 17 and py<2003

773212 17

22984598 PY<2003

586237 17 AND PY<2003 L8

=> s 17 and py<2003

22984598 PY<2003

L9 0 L7 AND PY<2003

=> s L7 and py<2003

22984598 PY<2003

0 L7 AND PY<2003 L10

=> d 17 18-23 ibib abs hitstr

THE ESTIMATED COST FOR THIS REQUEST IS 33.84 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

ANSWER 18 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:1038326 CAPLUS

142:16843 DOCUMENT NUMBER:

TITLE: mGluR2 antagonists and

> 2-amino-3-alkoxy-6-[3.1.0]hexan-2,6-dicarboxylate derivatives for treatment of nervous system diseases

INVENTOR(S): Nakazato, Atsuro; Taki, Shigeyuki; Sakagami, Kazunari;

Dean, Reiko; Ota, Hiroyuki; Hirota, Shiho; Yasuhara,

Akitaka

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 70 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE JP 2004339199 A 20041202
PRIORITY APPLN. INFO.:
OTHER SOURCE(S): MARPAT 142:16843 

 JP 2004-86153
 20040324

 JP 2003-117907
 A 20030423

GΙ

AB The antidepressant mGlur2 antagonists and 2-amino-3-alkoxy-6-[3.1.0]hexan-2,6-dicarboxylate derivs., salts, and hydrates are claimed for treatment of nervous system diseases, including bipolar affective disorder, psychiatry disorder, anxiety, epilepsy, drug dependence, cognition disorder, Alzheimer's disease, Huntington's disease, Parkinson disease, muscle stiffness, brain ischemia, spinal cord injury, head injury, etc.

ΙT 569686-59-5P 569686-61-9P 569686-62-0P 569686-63-1P 569686-64-2P 569686-65-3P 569686-66-4P 569686-67-5P 569686-68-6P 569686-69-7P 569686-70-0P 569686-71-1P 569686-72-2P 569686-73-3P 569686-74-4P 569686-75-5P 569686-76-6P 569686-77-7P 569686-78-8P 569686-79-9P 569686-80-2P 569686-81-3P 569686-82-4P 569686-83-5P 569686-84-6P 569686-85-7P 569686-86-8P 569686-87-9P 569686-88-0P 569686-89-1P 569686-90-4P 569686-91-5P 569686-92-6P 569686-93-7P 569686-94-8P 569686-95-9P 569686-98-2P 569686-99-3P 569687-00-9P 569687-01-0P 569687-02-1P 569687-03-2P 569687-04-3P 569687-05-4P 569687-06-5P 569687-07-6P 569687-08-7P 569687-09-8P 569687-10-1P 569687-11-2P 569687-13-4P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (6-Fluorobicyclo[3.1.0]hexane derivs. having group II metabotropic

(6-Fluorobicyclo[3.1.0]hexane derivs. having group II metabotropic glutamate receptor antagonist actions as antidepressants)

RN 569686-59-5 CAPLUS

CN

Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(phenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-61-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-methylphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-62-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-([1,1'-biphenyl]-2-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA
INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-63-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-([1,1'-biphenyl]-3-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-64-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,

2-amino-3-([1,1'-biphenyl]-4-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-65-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[[3-(trifluoromethyl)phenyl]methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-66-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-methoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-67-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-phenoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-68-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-cyanophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-69-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-carboxyphenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-70-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-nitrophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-71-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-aminophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-72-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(4-fluorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-73-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 
 $HO_2C$ 
 $HO_2$ 

RN 569686-74-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-75-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-76-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-bromophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-77-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-78-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(2,4-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA
INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-79-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,5-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-80-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,6-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-81-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,3-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-82-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-83-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,3-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-84-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-85-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-86-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,6-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-87-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-88-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

HO<sub>2</sub>C 
$$R$$
  $R$   $S$   $R$   $CO2H  $H$   $H2N$$ 

RN 569686-89-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-90-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(4-chloro-3-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-91-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-chloro-4-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-92-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3,4,5-trichlorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-93-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(2,3,4,5,6-pentafluorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-94-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(1-naphthalenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

RN 569686-95-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(2-naphthalenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-98-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(1-phenylethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 569686-99-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1R)-1-(3,4-dichlorophenyl)ethoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

$$\begin{array}{c} \text{C1} \\ \text{Me} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO}_2 \text{H} \end{array}$$

RN 569687-00-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)ethoxy]-6-fluoro-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$\begin{array}{c} \text{C1} \\ \text{Me} \\ \text{S} \\ \text{HO_2C} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO_2H} \\ \end{array}$$

RN 569687-01-0 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1R)-1-(3,4-dichlorophenyl)propoxy]-6-fluoro-,
(1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-02-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)propoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-03-2 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1R)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-04-3 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1S)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-05-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(diphenylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-06-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-07-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-08-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-09-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[bis(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-10-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(1R)-1-(2-naphthalenyl)ethoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-11-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(1S)-1-(2-naphthalenyl)ethoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-13-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,

2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, 6-ethyl ester, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

L7 ANSWER 19 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:814656 CAPLUS

DOCUMENT NUMBER: 141:325597

TITLE: Anxiolytic-like activity of MGS0039, a potent group II

metabotropic glutamate receptor antagonist, in a

marble-burying behavior test

AUTHOR(S): Shimazaki, Toshiharu; Iijima, Michihiko; Chaki,

Shigeyuki

CORPORATE SOURCE: Psychiatric Diseases and Pain Research, Medicinal

Pharmacology Laboratory, Medicinal Research Laboratories, Taisho Pharmaceutical Co., Ltd.,

Saitama, Saitama, 331-9530, Japan

SOURCE: European Journal of Pharmacology (2004), 501(1-3),

121-125

CODEN: EJPHAZ; ISSN: 0014-2999

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

AB Glutamatergic abnormalities are involved in several psychiatric disorders. Clin. evidence demonstrates altered glutamatergic neurotransmission in patients suffering from obsessive-compulsive disorder. MGS0039,

(1R, 2R, 3R, 5R, 6R) -2-amino-3-(3, 4-dichlorobenzyloxy) -6-

fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid, is a novel group II metabotropic glutamate (mGlu) receptor antagonist. We examined MGS0039's potential anti-obsessive-compulsive disorder activity, using the marble-burying behavior test as a model of obsessive-compulsive disorder. MGS0039 as well as LY341495 ((2S,1'S,2'S)-2-(9-xanthylmethyl)-2-(2'-carboxycycloprolyl)glycine), another group II mGlu receptor antagonist, inhibited marble-burying behavior. We also demonstrated that this effect was significantly attenuated by a group II mGlu receptor agonist. This data indicates that group II mGlu receptor antagonists may exert anti-obsessive-compulsive disorder effects in clin. use.

IT 569686-87-9, MGS0039

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(anxiolytic-like activity of MGS0039, a potent group II metabotropic qlutamate receptor antagonist, in a marble-burying behavior test)

569686-87-9 CAPLUS RN

Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, CN

> 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA)INDEX NAME)

Absolute stereochemistry. Rotation (+).

Cl R R R CO<sub>2</sub>H H2N

OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS

RECORD (20 CITINGS)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 20 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:620394 CAPLUS

DOCUMENT NUMBER: 141:243074

TITLE: Synthesis, in vitro pharmacology, structure-activity

relationships, and pharmacokinetics of

3-alkoxy-2-amino-6-fluorobicyclo[3.1.0]hexane-2,6dicarboxylic acid derivatives as potent and selective group II metabotropic glutamate receptor antagonists

AUTHOR(S): Nakazato, Atsuro; Sakagami, Kazunari; Yasuhara, Akito;

Ohta, Hiroshi; Yoshikawa, Ryoko; Itoh, Manabu; Nakamura, Masato; Chaki, Shiqeyuki

Medicinal Chemistry Laboratory, Taisho Pharmaceutical CORPORATE SOURCE:

Co. Ltd., Kita-ku, Saitama-shi, Saitama, 331-9530,

Japan

Journal of Medicinal Chemistry (2004), 47(18), SOURCE:

4570-4587

CODEN: JMCMAR; ISSN: 0022-2623

American Chemical Society PUBLISHER:

DOCUMENT TYPE: Journal English LANGUAGE:

OTHER SOURCE(S): CASREACT 141:243074

GΙ

AΒ Group II metabotropic glutamate receptor (mGluR) antagonists, 3-alkoxy-2-amino-6-fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid derivs., e.g., I, were discovered by the incorporation of a hydroxy or alkoxyl group onto the C-3 portion of selective and potent group II mGluR agonist II. Among these compds., I (MGS0039) was a highly selective and potent group II mGluR antagonist with the best pharmacokinetic profile. I exhibited high affinities for mGlu 2 (Ki =  $2.38 \pm 0.40$  nM) and mGlu 3  $(4.46 \pm 0.31 \text{ nM})$  but low affinity for mGluR 7 (Ki = 664 ± 106 nM), and potent antagonist activities for mGlu 2 (IC50 =  $20.0 \pm 3.67$ nM) and  $mGluR 3 (IC50 = 24.0 \pm 3.54 nM)$  but much less potent antagonist 1270 nM), mGlu 1 (IC50 =  $93300 \pm 14600 \text{ nM}$ ), and mGluR 5 (IC50 = 117000± 38600 nM). No significant agonist activities of I were found for mGluRs 2, 3, 4, 6, 1, and 5 (EC50 > 100000 nM). Furthermore, I exhibited dose-dependent oral absorption (plasma  $Cmax: 214 \pm 56.7$ , 932  $\pm 235$ , and  $2960 \pm 1150$  ng/mL for 3 mg/kg, 10 mg/kg, and 30 mg/kg, po, resp.) and acceptable blood-brain barrier penetration (brain Cmax: 13.2 ng/mL for 10 mg/kg, po 6 h). The synthesis, in vitro pharmacol. profile, and structure-activity relationships of 3-alkoxy-2-amino-6-fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid

derivs., and pharmacokinetic profiles of several typical compds, are presented.

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569686-59-5P
                    569686-61-9P
                                    569686-62-0P
ΙT
     569686-63-1P
                    569686-64-2P
                                    569686-65-3P
     569686-66-4P
                    569686-67-5P
                                    569686-68-6P
                                    569686-71-1P
     569686-69-7P
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     569686-72-2P
                    569686-73-3P
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                    569686-76-6P
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                                    569686-81-3P
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                                    569686-84-6P
     569686-85-7P
                    569686-86-8P
                                    569686-88-0P
     569686-89-1P
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     569687-09-8P
                    569687-10-1P
                                    569687-11-2P
     748780-99-6P
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RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

CN

(preparation of alkoxy(amino)fluorobicyclohexanedicarboxylic acid derivs. and their binding affinity of group II metabotropic glutamate receptors and structure-activity relationship starting from chiral fluoro(oxo)bicyclohexanecarboxylates)

RN 569686-59-5 CAPLUS

Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(phenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-61-9 CAPLUS

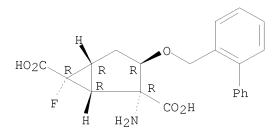
Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, CN 2-amino-6-fluoro-3-[(3-methylphenyl)methoxy]-, (1R, 2R, 3R, 5R, 6R)- (CA)INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-62-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-([1,1'-biphenyl]-2-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



569686-63-1 CAPLUS RN

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-([1,1'-biphenyl]-3-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA
INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-64-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-([1,1'-biphenyl]-4-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA
INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-65-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[[3-(trifluoromethyl)phenyl]methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

HO<sub>2</sub>C 
$$\stackrel{H}{\underset{F}{R}}$$
  $\stackrel{R}{\underset{H}{\underset{H_{2}N}{R}}}$   $\stackrel{O}{\underset{CO_{2}H}{}}$ 

RN 569686-66-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-methoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA

## INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-67-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-phenoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-68-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-cyanophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-69-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-carboxyphenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-70-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-nitrophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-71-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-aminophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-72-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(4-fluorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-73-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-74-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-75-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-76-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-bromophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-78-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,4-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-79-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,5-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-80-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,6-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-81-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,3-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-82-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-83-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,3-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-84-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-85-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-86-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,6-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-88-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-89-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-90-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(4-chloro-3-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-91-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-chloro-4-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-92-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3,4,5-trichlorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-93-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(2,3,4,5,6-pentafluorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-94-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(1-naphthalenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

RN 569686-99-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1R)-1-(3,4-dichlorophenyl)ethoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

$$\begin{array}{c} \text{C1} \\ \text{Me} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO}_2 \text{H} \\ \end{array}$$

RN 569687-00-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)ethoxy]-6-fluoro-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$\begin{array}{c} \text{C1} \\ \text{Me} \\ \text{S} \\ \text{HO_2C} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO_2H} \\ \end{array}$$

RN 569687-01-0 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1R)-1-(3,4-dichlorophenyl)propoxy]-6-fluoro-,
(1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-02-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)propoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-03-2 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1R)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-04-3 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1S)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-06-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-07-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-08-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-09-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-10-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(1R)-1-(2-naphthalenyl)ethoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-11-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(1S)-1-(2-naphthalenyl)ethoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 748780-99-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1S,2S,3S,5S,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

IT 569686-77-7P 569686-87-9P 569686-95-9P 569687-05-4P

RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic

Absolute stereochemistry. Rotation (-).

RN 569686-87-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

HO<sub>2</sub>C 
$$\stackrel{\text{R}}{\underset{\text{H}}{\text{R}}}$$
  $\stackrel{\text{R}}{\underset{\text{R}}{\text{R}}}$   $\stackrel{\text{CO}_2}{\underset{\text{H}}{\text{R}}}$ 

RN 569686-95-9 CAPLUS

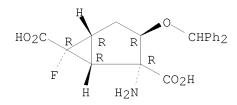
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(2-naphthalenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-05-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(diphenylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



OS.CITING REF COUNT: 18 THERE ARE 18 CAPLUS RECORDS THAT CITE THIS

RECORD (18 CITINGS)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 21 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:126085 CAPLUS

DOCUMENT NUMBER: 141:82129

TITLE: MGS0039: a potent and selective group II metabotropic

glutamate receptor antagonist with antidepressant-like

activity

AUTHOR(S): Chaki, Shigeyuki; Yoshikawa, Ryoko; Hirota, Shiho;

Shimazaki, Toshiharu; Maeda, Maoko; Kawashima, Naoya; Yoshimizu, Takao; Yasuhara, Akito; Sakagami, Kazunari;

Okuyama, Shigeru; Nakanishi, Shigetada; Nakazato,

Atsuro

CORPORATE SOURCE: Medicinal Research Laboratories, Taisho Pharmaceutical

Co., Ltd., Saitama, 331-9530, Japan

SOURCE: Neuropharmacology (2004), 46(4), 457-467

CODEN: NEPHBW; ISSN: 0028-3908

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

AB The present study describes the pharmacol. profile of (1R, 2R, 3R, 5R, 6R) -2-Amino-3-(3, 4-dichlorobenzyloxy)-6-

fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid (MGS0039), a novel group II mGluR antagonist. MGS0039 showed high affinity for both mGluR2 (Ki =

 $2.2 \, \text{nM})$  and mGluR3 (Ki =  $4.5 \, \text{nM}$ ), which are comparable to LY341495,

another group II mGluR antagonist. MGS0039 attenuated both

glutamate-induced inhibition of forskolin-evoked cAMP formation in CHO

cells expressing mGluR2 (IC50 = 20 nM) or mGluR3 (IC50=24 nM) and glutamate-increased [35S]GTP $\gamma$ S binding to mGluR2 (pA2=8.2), which means that MGS0039 acts as an antagonist. MGS0039 shifted the dose-response curve of glutamate-increased [35S]GTP $\gamma$ S binding rightward without altering the maximal response, and thereby indicating competitive antagonism. MGS0039 showed no significant effects on other mGluRs as well as the other receptors and transporters we studied. MGS0039 (0.3-3 mg/kg, i.p.) as well as LY341495 (0.1-3 mg/kg, i.p.) had dose-dependent antidepressant-like effects in the rat forced swim test and in the mouse tail suspension test. In contrast, MGS0039 (0.3-3 mg/kg, i.p.) had no apparent effect in the rat social interaction test and in the rat elevated plus-maze. These results indicate that MGS0039 is a potent and selective antagonist of group II mGluR, and that group II mGluR antagonists, like MGS0039, have an antidepressant-like potential in exptl. animal models.

IT 569686-87-9, MGS 0039

RL: DMA (Drug mechanism of action); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(MGS0039: a potent and selective group II metabotropic glutamate receptor antagonist with antidepressant-like activity)

RN 569686-87-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,

2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

OS.CITING REF COUNT: 55 THERE ARE 55 CAPLUS RECORDS THAT CITE THIS

RECORD (55 CITINGS)

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 22 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:96754 CAPLUS

DOCUMENT NUMBER: 140:368470

TITLE: Increased cell proliferation in the adult mouse

hippocampus following chronic administration of group II metabotropic glutamate receptor antagonist, MGS0039

AUTHOR(S): Yoshimizu, Takao; Chaki, Shigeyuki

CORPORATE SOURCE: Medicinal Research Laboratories, Medicinal

Pharmacology Laboratory, Psychiatric Diseases and Pain Research, Taisho Pharmaceutical Co., Ltd., Kita-ku,

Saitama, 331-9530, Japan

SOURCE: Biochemical and Biophysical Research Communications

(2004), 315(2), 493-496

CODEN: BBRCA9; ISSN: 0006-291X

PUBLISHER: Elsevier Science

DOCUMENT TYPE: Journal LANGUAGE: English

We have previously reported that MGS0039, a novel antagonist of group II AΒ metabotropic glutamate receptors (mGluRs), exerts antidepressant-like effects in exptl. animal models. Recent studies suggest that the behavioral effects of chronic antidepressant treatment are mediated by the stimulation of neurogenesis in the hippocampus. In the present study, we examined the effects of MGS0039 on cell proliferation in the adult mouse hippocampus. MGS0039 (5 or 10 mg/kg) or fluvoxamine was administered chronically to male ICR mice over a period of 14 days. Multiple bromodeoxyuridine (BrdU) administrations were performed after the last drug injection to label dividing cells. Immunohistochem. analyses after BrdU injections revealed that chronic MGS0039 treatment enhanced BrdU-pos. cells in the dentate gyrus (.apprx.62% increase) in the same manner as chronic fluvoxamine treatment. This is the first in vivo study to demonstrate an increase in cell proliferation following a blockade of group II mGluRs. These findings raise the possibility that MGS0039 may exert antidepressant-like effects by modulating cell proliferation in the hippocampus.

IT 569686-87-9, MGS 0039

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(chronic administration; increased cell proliferation in the adult mouse hippocampus following chronic administration of group II metabotropic glutamate receptor antagonist, MGS0039)

RN 569686-87-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,

2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

OS.CITING REF COUNT: 45 THERE ARE 45 CAPLUS RECORDS THAT CITE THIS

RECORD (46 CITINGS)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 23 OF 23 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:591035 CAPLUS

DOCUMENT NUMBER: 139:143973

TITLE: 6-Fluorobicyclo[3.1.0]hexane derivatives
INVENTOR(S): Nakazato, Atsuro; Chaki, Shigeyuki; Sakagami,

Kazunari; Dean, Ryoko; Ohta, Hiroshi; Hirota, Shiho;

Yasuhara, Akito

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., ltd., Japan

SOURCE: PCT Int. Appl., 98 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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	2003								WO 2002-JP13693									
	W:											, BR,						
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CA	2471	,																
EP	1459765				A1 20040922				CA 2002-2471642 EP 2002-793421					20021226				
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	R:		BE,	CH,	DE,	DK,			GB,	GF	R, IT	, LI,	LU,	NL,	SE,	MC,	PT,	
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BR	2002				A		2004	1130								0021	226	
CN	2002015462 1610557				A 20050427					BR 2002-15462 CN 2002-826388					20021226			
CN	1281	274			C		2006											
ZA	2005	0020		A 20050629					ZA	2005	-2085			2	0021	226		
HU	A 2005002085 U 2004002649				A2 20051028					HU	2004-2649				20021226			
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AU					B2 20071220					AU 2002-359923					20021226			
RU	RU 2315622				C2 20080127					RU 2004-122916					20021226			
AT 405289					T 20080915				AT 2002-793421					20021226				
ES 2311642					T3 20090216				ES 2002-793421 JP 2003-561641					20021226				
AT 405289 ES 2311642 JP 4230919					B2 20090225					JP 2003-561641					20021226			
NO 2004002530					A 20040922					NO 2004-2530					20040616			
ZA 2004004795					A 20050617					ZA 2004-4795					20040617			
IN	J 2004CN01417				A 20060210				IN	N 2004-CN1417 X 2004-6322				20040623				
MX	2004006322				A 20041004				MX	2004-6322 2004-710069				20040625				
KR	8 897970				В1		2009	0518		KR	2004	-7100	69		2	0040	625	
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HK 1073258					A1 20070323				HK 2005-106035 KR 2009-705135					20050715				
KR 2009031962					A1 20070323 A 20090330				KR 2009-705135				20090312					
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										KR	2004	-7100	69		A3 2	0040	625	
IED COUDCE (C).					MADI	1 / 20'	73											

OTHER SOURCE(S): MARPAT 139:143973

GΙ

AΒ Antidepressants containing as the active ingredient compds. having group II metabotropic glutamate receptor antagonism; and 2-amino-3-alkoxy-6-fluorobicyclo[3.1.0]- hexane-2,6-dicarboxylic acid derivs. represented by the general formula [I], pharmaceutically acceptable salts thereof, or hydrates of the salts: I wherein R1 and R2 may be the same or different from each other and are each hydroxyl, C1-10 alkoxy, or the like; R3 is C1-10 acyl, C1-6 alkoxy-C1-6 acyl, or the like; and R4 and R5 may be the same or different from each other and are each hydrogen, C1-10 alkyl, or the like. 569686-61-9P 569686-62-0P ΙT 569686-59-5P 569686-63-1P 569686-64-2P 569686-65-3P 569686-66-4P 569686-67-5P 569686-68-6P 569686-69-7P 569686-70-0P 569686-71-1P

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569686-73-3P
                              569686-74-4P
569686-72-2P
569686-75-5P
               569686-76-6P
                              569686-77-7P
569686-78-8P
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569686-81-3P
               569686-82-4P
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569686-84-6P
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569686-87-9P
              569686-88-0P
                              569686-89-1P
569686-90-4P
              569686-91-5P
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569686-93-7P
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569686-98-2P
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                              569687-06-5P
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569687-10-1P
               569687-11-2P
                              569687-13-4P
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RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(6-Fluorobicyclo[3.1.0]hexane derivs. having group II metabotropic glutamate receptor antagonist actions as antidepressants)

RN 569686-59-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(phenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-61-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-methylphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-62-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-([1,1'-biphenyl]-2-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-63-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-([1,1'-biphenyl]-3-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-64-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-([1,1'-biphenyl]-4-ylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-65-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[[3-(trifluoromethyl)phenyl]methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-66-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-methoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-67-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-phenoxyphenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-68-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-cyanophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-69-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-carboxyphenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-70-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3-nitrophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-71-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-aminophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 569686-72-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(4-fluorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-73-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-74-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-75-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-76-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3-bromophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-77-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-78-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,4-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-79-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,5-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-80-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,6-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-81-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,3-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 
 $H$ 
 $H_2N$ 

RN 569686-82-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-difluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-83-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,3-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-84-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-85-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$HO_2C$$
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 
 $C1$ 

RN 569686-86-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(2,6-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-87-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-88-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

HO<sub>2</sub>C 
$$R$$
  $R$   $S$   $R$   $CO2H  $H$   $H2N$$ 

RN 569686-89-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(3,5-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-90-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(4-chloro-3-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)-

## (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-91-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(3-chloro-4-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-92-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(3,4,5-trichlorophenyl)methoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-93-7 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,

2-amino-6-fluoro-3-[(2,3,4,5,6-pentafluorophenyl)methoxy]-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569686-94-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(1-naphthalenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

RN 569686-95-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(2-naphthalenylmethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569686-98-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-(1-phenylethoxy)-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 569686-99-3 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1R)-1-(3,4-dichlorophenyl)ethoxy]-6-fluoro-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

$$\begin{array}{c} \text{C1} \\ \text{Me} \\ \text{HO}_2\text{C} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO}_2\text{H} \\ \end{array}$$

RN 569687-00-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)ethoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

$$\begin{array}{c} \text{C1} \\ \text{Me} \\ \text{S} \\ \text{HO}_2\text{C} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO}_2\text{H} \\ \end{array}$$

RN 569687-01-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1R)-1-(3,4-dichlorophenyl)propoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

$$\begin{array}{c} \text{C1} \\ \text{Et} \\ \text{HO}_2\text{C} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{R} \\ \text{CO}_2\text{H} \end{array}$$

RN 569687-02-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[(1S)-1-(3,4-dichlorophenyl)propoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-03-2 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1R)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-04-3 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(1S)-1-(3,4-dichlorophenyl)butoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-05-4 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(diphenylmethoxy)-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-06-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-fluorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-07-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-08-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-[bis(4-chlorophenyl)methoxy]-6-fluoro-, (1R,2R,3S,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-09-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[bis(3,4-dichlorophenyl)methoxy]-6-fluoro-, (1R,2R,3R,5R,6R)(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 569687-10-1 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(1R)-1-(2-naphthalenyl)ethoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 569687-11-2 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-[(1S)-1-(2-naphthalenyl)ethoxy]-, (1R,2R,3R,5R,6R)-(CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

## 10/923,271

RN 569687-13-4 CAPLUS
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid,
2-amino-3-[(3,4-dichlorophenyl)methoxy]-6-fluoro-, 6-ethyl ester,
(1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD

(2 CITINGS)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> Uploading C:\Program Files\Stnexp\Queries\10562018a.str

L11 STRUCTURE UPLOADED

=> d L11 HAS NO ANSWERS L11 STR

G1 O, S, N G2 X, H

Structure attributes must be viewed using STN Express query preparation.

=> s 111 sss sam

REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

SAMPLE SEARCH INITIATED 16:24:49 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 21 TO ITERATE

100.0% PROCESSED 21 ITERATIONS 15 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 146 TO 694
PROJECTED ANSWERS: 68 TO 532

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L13 11 L12

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22984598 PY<2003

L14 2 L13 AND PY<2003

=> d 1-2 ibib abs hitstr

THE ESTIMATED COST FOR THIS REQUEST IS 11.28 U.S. DOLLARS

DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L14 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:157966 CAPLUS

DOCUMENT NUMBER: 132:166520

TITLE: Stereospecific synthesis of

2-amino-bicyclo[3.1.0]hexan-2,6-dicarboxylic acid derivatives for use as metabotropic glutamate receptor

ligands

INVENTOR(S): Adam, Geo; Huguenin-Virchaux, Philippe Nicolas; Mutel,

Vincent; Stadler, Heinz; Woltering, Thomas Johannes

PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.

SOURCE: Ger. Offen., 22 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

СН	694053	A5	20040630	СН	1999-1550		19990824	
US	6107342	A	20000822	US	1999-385935		19990830	<
CA	2281272	A1	20000303	CA	1999-2281272		19990831	<
GB	2341179	A	20000308	GB	1999-20579		19990831	<
GB	2341179	В	20040218					
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JP	3340409	B2	20021105					
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SE	520026	C2	20030513					
FR	2786768	A1	20000609	FR	1999-10971		19990901	<
FR	2786768	B1	20041015					
ΙT	99MI1860	A1	20010301	ΙT	1999-MI1860		19990901	<
ΙT	1313618	B1	20020909					
NL	1012963	A1	20000306	NL	1999-1012963		19990902	<
NL	1012963	C2	20031023					
AU	9947327	A	20000316	AU	1999-47327		19990902	<
AU	757939	B2	20030313					
AT	501853	A1	20061115	ΑT	1999-1514		19990902	
BE	1014616	A3	20040203	BE	1999-595		19990903	
PRIORIT	Y APPLN. INFO.:			ΕP	1998-116670	Α	19980903	
OTHER SO	OURCE(S):	MARPAT	132:166520					
GI								

AB Title compds. [(I); R = OH, alkoxy, alkenyloxy, PhCH2O-, H, 2H, 3H; R1 = H, 3H; R,R1 = bond; R2 = H, 2H, 3H, OH, NH2] were stereospecifically prepared for use in treatment of neurol. conditions and psychiatric disturbances (no data). Thus, racemic Et  $(1\alpha, 5\alpha, 6\alpha)$ -2-oxo-bicyclo[3.1.0]hexane-6-carboxylic acid was reacted with Ph bis((trifluoromethyl)sulfonyl)amine and the resulting triflate transformed into the racemic 2-ethyl-6-benzyl bicyclo[3.1.0]hex-2-ene-2,6-dicarboxylic acid, reaction of which with K2[OsO2(OH)4] gave stereospecifically the 1S,2S,3R,6S-diol, which could be isolated in 26% yield, at >99% enantiomeric excess. Preparation of the 2R-2-azido compound from the diol through a cyclic sulfate gave an intermediate which could then be alkylated, aminated, hydrogenated, de-esterified, or otherwise treated to give I, for use as ligands for metabotropic glutamate group II receptors.

IT 259134-96-8P

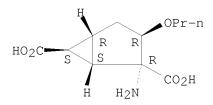
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(stereospecific synthesis of 2-amino-bicyclo[3.1.0]hexan-2,6-dicarboxylic acid derivs. for use as metabotropic glutamate receptor ligands)

RN 259134-96-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-propoxy-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (27 CITINGS)

L14 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:68447 CAPLUS

DOCUMENT NUMBER: 132:93652
TITLE: Preparation of

2-aminobicyclo[3.1.0]hexane-2,6-dicarboxylates and related compounds as pharmaceutical intermediates and

modulators of metabotropic glutamate receptor

function.

INVENTOR(S): Baker, Stephen Richard; Monn, James Allen; Ezquerra

Carrera, Jesus; Dominguez Fernandez, Carmen

PATENT ASSIGNEE(S): Eli Lilly and Company Limited, UK; Lilly, S.A.; Eli

Lilly and Company

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

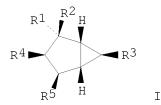
DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.				
	A1 20000127	WO 1999-GB2273	19990714 <			
W: AL, AM, AT,	AU, AZ, BA, BB,	BG, BR, BY, CA, CH, C	CN, CU, CZ, DE,			
DK, EE, ES,	FI, GB, GD, GE,	GH, GM, HR, HU, ID,	IL, IN, IS, JP,			
, , ,		LR, LS, LT, LU, LV, N				
MW, MX, NO,	NZ, PL, PT, RO,	RU, SD, SE, SG, SI, S	SK, SL, TJ, TM,			
	UG, US, UZ, VN,	·				
		SZ, UG, ZW, AT, BE, C				
		LU, MC, NL, PT, SE, F	BF, BJ, CF, CG,			
• • • • • • • • • • • • • • • • • • • •	GN, GW, ML, MR,	·				
		CA 1999-2338054				
		AU 1999-49223				
		EP 1999-933048				
R: AT, BE, CH, IE, FI	DE, DK, ES, FR,	GB, GR, IT, LI, LU, N	NL, SE, MC, PT,			
JP 2002520406	T 20020709	JP 2000-560116	19990714 <			
PRIORITY APPLN. INFO.:		GB 1998-15542	A 19980717			
		WO 1999-GB2273	W 19990714			
OTHER SOURCE(S):	MARPAT 132:9365	2				

GT



Title compds. [I; either R1 = N3, (protected) amino; R2 = (protected)AΒ carboxy; or R1 = trihalomethyl; R2 = OH; R3 = (protected) carboxy; either R4 = OR6 and R5 = OR7; or R4 and R5 = H or R4R5 = bond; ether R6 and R7 = R4H; or R6R7 = diol protecting group; provided that when R4 and R5 = H, R1 ≠ amino], were prepared s pharmaceutical intermediates and modulators of metabotropic glutamate receptor function (no data). Thus, ethoxycarbonylmethyldimethylsulfonium bromide in CHC13 was treated with DBU and then with (-)-2,3-(cyclohexylidenedioxy)-4-cyclopentenone in CHCl3followed by stirring overnight to give 96% Et (1S, 3R, 4R, 5R, 6S) -2-oxo-3, 4-cyclohexylidenedioxybicyclo[3.1.0]hexane-6carboxylate. This with CHCl3 in THF at  $-78^{\circ}$  was treated with Li hexamethyldisilazide in THF followed by warming to room temperature to give 94% Et (1S, 2S, 3R, 4R, 5R, 6S) -2-trichloromethyl-2-hydroxy-3, 4cyclohexylidenedioxybicyclo[3.1.0]hexane-6-carboxylate. Treatment of the latter with NaN3, 18-crown-6, and DBU in MeOH over 6 h gave 84% di-Me (1S, 2R, 3S, 4R, 5R, 6S) -2-azido-3, 4-cyclohexylidenedioxybicyclo[3.1.0]hexane-2,6-dicarboxylate. This was hydrogenated in EtOAc over Pd/C to give 71% of the corresponding amine, which was converted to (1S, 2R, 3S, 4R, 5R, 6R) -2-amino-3, 4-dihydroxybicyclo[3.1.0] hexane-2, 6dicarboxylic acid in several steps. ΙT 254982-43-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of 2-aminobicyclo[3.1.0]hexane-2,6-dicarboxylates and related compds. as pharmaceutical intermediates and modulators of metabotropic glutamate receptor function)

254982-43-9 CAPLUS RN

Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3,4-dihydroxy-, CN (1S, 2S, 5R, 6S) - (CA INDEX NAME)

Absolute stereochemistry.

$$HO_2C$$
  $S$   $S$   $S$   $S$   $CO_2H$ 

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD

(3 CITINGS)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s l11 sss full REG1stRY INITIATED

Substance data SEARCH and crossover from CAS REGISTRY in progress... Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

THE ESTIMATED SEARCH COST FOR FILE 'REGISTRY' IS 185.40 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or END:y FULL SEARCH INITIATED 16:26:44 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 504 TO ITERATE

100.0% PROCESSED 504 ITERATIONS 332 ANSWERS

SEARCH TIME: 00.00.01

L15 332 SEA SSS FUL L11

L16 29 L15

L17 4 L16 AND PY<2003

=> d 1-4 ibib abs hitstr

THE ESTIMATED COST FOR THIS REQUEST IS 22.56 U.S. DOLLARS DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L17 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:851222 CAPLUS

DOCUMENT NUMBER: 138:198858

TITLE: Molecular docking of ligands of glutamate receptors AUTHOR(S): Belenikin, M. S.; Makkiarulo, A.; Konstantino, G.; Palyulin, V. A.; Pellichari, P.; Zefirov, N. S.

CORPORATE SOURCE: Kafedra Org. Khim., Mosk. Gos. Univ., Moscow, Russia SOURCE: Vestnik Moskovskogo Universiteta, Seriya 2: Khimiya (

2002), 43(4), 221-230

CODEN: VMUKA5; ISSN: 0579-9384

PUBLISHER: Izdatel'stvo Moskovskogo Universiteta

DOCUMENT TYPE: Journal LANGUAGE: Russian

AB Docking of a number of agonists and antagonists into glutamate-binding sites of human metabotropic and ionotropic glutamate receptors was modeled using the computer program AutoDock 3.0. The three-dimensional structures of the ligand-receptor complexes were in good agreement with exptl. data. Effect of water mols. at the ligand-binding site of the receptor on the ligand orientation was studied.

IT 259134-85-5

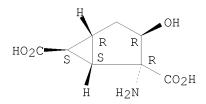
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(modeling of mol. docking of ligands of human metabotropic and ionotropic glutamate receptors)

RN 259134-85-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



L17 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:10425 CAPLUS

DOCUMENT NUMBER: 136:85627

TITLE: Preparation of bicyclo[3.1.0]dicarboxylic acid

derivatives as group 2 metabotropic glutamate receptor

agonists

INVENTOR(S): Nakazato, Atsuro; Kumagai, Toshihito; Kanuma, Kosuke;

Sakagami, Kazunari

PATENT ASSIGNEE(S): Taisho Pharmaceutical Co., Ltd., Japan

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.			KIND DATE			APPLICATION NO.						DATE						
WO	2002	0006	 05		A1	_	2002	0103	WO 2001-JP5550						20010628 <			
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,	
		CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,	
		GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KR,	KΖ,	LC,	LK,	LR,	LS,	
		LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MΖ,	NO,	NZ,	PL,	PT,	RO,	
		RU,	SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	
		VN,	YU,	ZA,	ZW													
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		DE,	DK,	ES,	FΙ,	FR,	GB,	GR,	IE,	ΙΤ,	LU,	MC,	NL,	PT,	SE,	TR,	BF,	
		ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GW,	ML,	MR,	ΝE,	SN,	TD,	ΤG			
ΑU	2001	0678	54		A	20020108			AU 2001-67854						20010628 <			
CA	2411	059			A1		2002	1206		CA 2	001-	2411	059		20010628 <			
EΡ	1295	865			A1		20030326			EP 2	001-	9456	57		20010628			
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	ΙT,	LI,	LU,	NL,	SE,	MC,	PT,	
		ΙE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL,	TR							
CN	1216	038			С		2005	0824		CN 2001-811723					20010628			
AU 2001267854			В2		2005	1201		AU 2	001-	2678	54		20010628					

GΙ

US 20030134902	A1	20030717	US	2002-297479		20021206
US 6770676	В2	20040803				
HK 1056868	A1	20051202	HK	2003-109245		20031219
PRIORITY APPLN. INFO.:			JP	2000-195239	A	20000628
			WO	2001-JP5550	W	20010628
OTHER SOURCE(S):	MARPAT	136:85627				

$$R^{2}O-CO$$
 $H_{2}N$ 
 $H_{2}N$ 
 $H_{3}$ 
 $R^{4}$ 

2-Amino-6-fluorobicyclo[3.1.0]hexane-2,6-dicarboxylic acid derivs. represented by the general formula I [R1, R2 = H, alkyl, etc.; when R3 is OH, R4 is H; or R3R4 = bond] are prepared These compds. are useful as drugs, in particular, group 2 metabotropic glutamate receptor agonists having therapeutic and preventive effects on, for example, psychiatric diseases such as schizophrenia, anxiety, etc.

(1R, 2R, 3R, 5R, 6R)-2-Amino-6-fluoro-3-hydroxybicyclo[3.1.0]hexane-2,6-dicarboxylic acid was prepared and its bioactivity was demonstrated.

IT 385372-18-9P

Ι

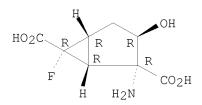
385372-18-9P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of bicyclo[3.1.0]dicarboxylic acid derivs. as group 2 metabotropic glutamate receptor agonists)

RN 385372-18-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-hydroxy-, (1R,2R,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



IT 385372-31-6P

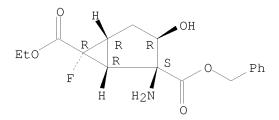
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of bicyclo[3.1.0]dicarboxylic acid derivs. as group 2 metabotropic glutamate receptor agonists)

RN 385372-31-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-6-fluoro-3-hydroxy-, 6-ethyl 2-(phenylmethyl) ester, (1R,2S,3R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD

(8 CITINGS)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:157966 CAPLUS

DOCUMENT NUMBER: 132:166520

TITLE: Stereospecific synthesis of

2-amino-bicyclo[3.1.0]hexan-2,6-dicarboxylic acid derivatives for use as metabotropic glutamate receptor

ligands

INVENTOR(S): Adam, Geo; Huguenin-Virchaux, Philippe Nicolas; Mutel,

Vincent; Stadler, Heinz; Woltering, Thomas Johannes

PATENT ASSIGNEE(S): F. Hoffmann-La Roche A.-G., Switz.

SOURCE: Ger. Offen., 22 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19941675	A1	20000309	DE 1999-19941675	19990901 <
СН 694053	A5	20040630	СН 1999-1550	19990824
US 6107342	A	20000822	US 1999-385935	19990830 <
CA 2281272	A1	20000303	CA 1999-2281272	19990831 <
GB 2341179	A	20000308	GB 1999-20579	19990831 <
GB 2341179	В	20040218		
JP 2000086597	A	20000328	JP 1999-244167	19990831 <
JP 3340409	В2	20021105		
SE 9903088	A	20000304	SE 1999-3088	19990901 <
SE 520026	C2	20030513		
FR 2786768	A1	20000609	FR 1999-10971	19990901 <
FR 2786768	В1	20041015		
IT 99MI1860	A1	20010301	IT 1999-MI1860	19990901 <
IT 1313618	В1	20020909		
NL 1012963	A1	20000306	NL 1999-1012963	19990902 <
NL 1012963	C2	20031023		

AU 9947327	A	20000316	ΑU	1999-47327		19990902 <
AU 757939	В2	20030313				
AT 501853	A1	20061115	AT	1999-1514		19990902
BE 1014616	A3	20040203	BE	1999-595		19990903
PRIORITY APPLN. INFO.:			EP	1998-116670	A	19980903
OTHER SOURCE(S):	MARPAT	132:166520				
GI						

AB Title compds. [(I); R = OH, alkoxy, alkenyloxy, PhCH2O-, H, 2H, 3H; R1 = H, 3H; R,R1 = bond; R2 = H, 2H, 3H, OH, NH2] were stereospecifically prepared for use in treatment of neurol. conditions and psychiatric disturbances (no data). Thus, racemic Et  $(1\alpha, 5\alpha, 6\alpha)$ -2-oxo-bicyclo[3.1.0]hexane-6-carboxylic acid was reacted with Ph bis((trifluoromethyl)sulfonyl)amine and the resulting triflate transformed into the racemic 2-ethyl-6-benzyl bicyclo[3.1.0]hex-2-ene-2,6-dicarboxylic acid, reaction of which with K2[OsO2(OH)4] gave stereospecifically the 1S,2S,3R,6S-diol, which could be isolated in 26% yield, at >99% enantiomeric excess. Preparation of the 2R-2-azido compound from the diol through a cyclic sulfate gave an intermediate which could then be alkylated, aminated, hydrogenated, de-esterified, or otherwise treated to give I, for use as ligands for metabotropic glutamate group II receptors.

IT 259134-78-6P 259134-79-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(stereospecific synthesis of 2-amino-bicyclo[3.1.0]hexan-2,6-dicarboxylic acid derivs. for use as metabotropic glutamate receptor ligands)

RN 259134-78-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(2-propen-1-yloxy)-, 6-ethyl 2-(phenylmethyl) ester, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

## 10/923,271

RN 259134-79-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(phenylmethoxy)-, 6-ethyl 2-(phenylmethyl) ester, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

TT 259134-85-5P 259134-86-6P 259134-87-7P 259134-88-8P 259134-89-9P 259134-94-6P 259134-95-7P 259134-96-8P 259134-97-9P 259134-98-0P 259135-00-7P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(stereospecific synthesis of 2-amino-bicyclo[3.1.0]hexan-2,6-dicarboxylic acid derivs. for use as metabotropic glutamate receptor ligands)

RN 259134-85-5 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

$$HO_2C$$
 $S$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 259134-86-6 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, 6-ethyl 2-(phenylmethyl) ester, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

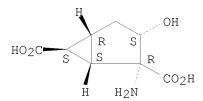
Absolute stereochemistry.

## 10/923,271

RN 259134-87-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, (1S,2R,3S,5R,6S)- (CA INDEX NAME)

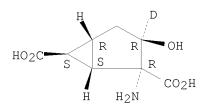
Absolute stereochemistry. Rotation (+).



RN 259134-88-8 CAPLUS

CN Bicyclo[3.1.0]hexane-3-d-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, (1S,2R,3R,5R,6S)- (9CI) (CA INDEX NAME)

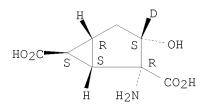
Absolute stereochemistry.



RN 259134-89-9 CAPLUS

CN Bicyclo[3.1.0]hexane-3-d-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, (1S,2R,3S,5R,6S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 259134-94-6 CAPLUS

CN Bicyclo[3.1.0]hexane-3-t-2,6-dicarboxylic acid, 2-amino-3-hydroxy-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

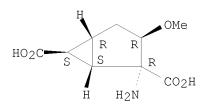
Absolute stereochemistry.

$$HO_2C$$
 $S$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 259134-95-7 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-methoxy-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

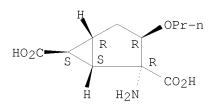
Absolute stereochemistry. Rotation (+).



RN 259134-96-8 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-propoxy-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 259134-97-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(2-propen-1-yloxy)-, (1S,2R,3R,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

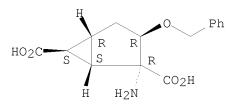
$$HO_2C$$
 $S$ 
 $R$ 
 $R$ 
 $R$ 
 $R$ 
 $CO_2H$ 

RN 259134-98-0 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3-(phenylmethoxy)-,

(1S, 2R, 3R, 5R, 6S) - (CA INDEX NAME)

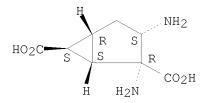
Absolute stereochemistry. Rotation (-).



259135-00-7 CAPLUS RN

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2,3-diamino-, (1S, 2R, 3S, 5R, 6S) - (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



THERE ARE 10 CAPLUS RECORDS THAT CITE THIS OS.CITING REF COUNT: 10

RECORD (27 CITINGS)

L17 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:68447 CAPLUS

132:93652 DOCUMENT NUMBER: TITLE: Preparation of

2-aminobicyclo[3.1.0]hexane-2,6-dicarboxylates and related compounds as pharmaceutical intermediates and

modulators of metabotropic glutamate receptor

function.

INVENTOR(S): Baker, Stephen Richard; Monn, James Allen; Ezquerra

Carrera, Jesus; Dominguez Fernandez, Carmen

Eli Lilly and Company Limited, UK; Lilly, S.A.; Eli PATENT ASSIGNEE(S):

Lilly and Company

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

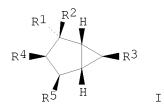
DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.			KIN	D	DATE			APPLICATION NO.					DATE				
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WO 2000004010			A1		20000127		WO 1999-GB2273						19990714 <				
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PRIORITY APPLN. INFO.:
                                            GB 1998-15542
                                                                A 19980717
                                            WO 1999-GB2273
                                                                W 19990714
                        MARPAT 132:93652
OTHER SOURCE(S):
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AΒ Title compds. [I; either R1 = N3, (protected) amino; R2 = (protected) carboxy; or R1 = trihalomethyl; R2 = OH; R3 = (protected) carboxy; either R4 = OR6 and R5 = OR7; or R4 and R5 = H or R4R5 = bond; ether R6 and R7 = R4H; or R6R7 = diol protecting group; provided that when R4 and R5 = H, R1 ≠ amino], were prepared s pharmaceutical intermediates and modulators of metabotropic glutamate receptor function (no data). Thus, ethoxycarbonylmethyldimethylsulfonium bromide in CHC13 was treated with DBU and then with (-)-2,3-(cyclohexylidenedioxy)-4-cyclopentenone in CHCl3followed by stirring overnight to give 96% Et (1S, 3R, 4R, 5R, 6S) -2-oxo-3, 4-cyclohexylidenedioxybicyclo[3.1.0]hexane-6carboxylate. This with CHCl3 in THF at  $-78^{\circ}$  was treated with Li hexamethyldisilazide in THF followed by warming to room temperature to give 94% Et (1S, 2S, 3R, 4R, 5R, 6S) -2-trichloromethyl-2-hydroxy-3, 4cyclohexylidenedioxybicyclo[3.1.0]hexane-6-carboxylate. Treatment of the latter with NaN3, 18-crown-6, and DBU in MeOH over 6 h gave 84% di-Me (1S, 2R, 3S, 4R, 5R, 6S)-2-azido-3, 4-cyclohexylidenedioxybicyclo[3.1.0]hexane-2,6-dicarboxylate. This was hydrogenated in EtOAc over Pd/C to give 71% of the corresponding amine, which was converted to (1S, 2R, 3S, 4R, 5R, 6R) -2-amino-3, 4-dihydroxybicyclo[3.1.0] hexane-2, 6dicarboxylic acid in several steps. ΙT 254982-42-8P 254982-43-9P RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of 2-aminobicyclo[3.1.0]hexane-2,6-dicarboxylates and related

compds. as pharmaceutical intermediates and modulators of metabotropic glutamate receptor function)

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RN 254982-42-8 CAPLUS

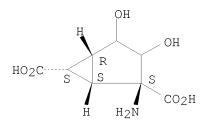
CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3,4-dihydroxy-, (1S,2R,3S,4R,5R,6R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 254982-43-9 CAPLUS

CN Bicyclo[3.1.0]hexane-2,6-dicarboxylic acid, 2-amino-3,4-dihydroxy-, (1S,2S,5R,6S)- (CA INDEX NAME)

Absolute stereochemistry.



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD

(3 CITINGS)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT